Membrane Red Probe (AIE)

A1456411

Storage at -20°C (12 months). Avoid freeze/thaw cycle. Protect from light.

Introduction:

Membrane Red Probe (AIE) is a triphenylamine derivative developed based on the AIE principle and has typical AIE characteristics. The product only needs to be simply incubated with cells to label the cell membrane.

Product Characteristics:

Membrane Red Probe (AIE) has excellent aggregation-induced emission properties and can specifically label the cell membranes of various cells. Due to the change in the aggregation state after binding to the cell membrane, its fluorescence intensity will undergo extremely obvious changes, while the fluorescent probes that do not bind to the cell membrane basically do not emit fluorescent signals.

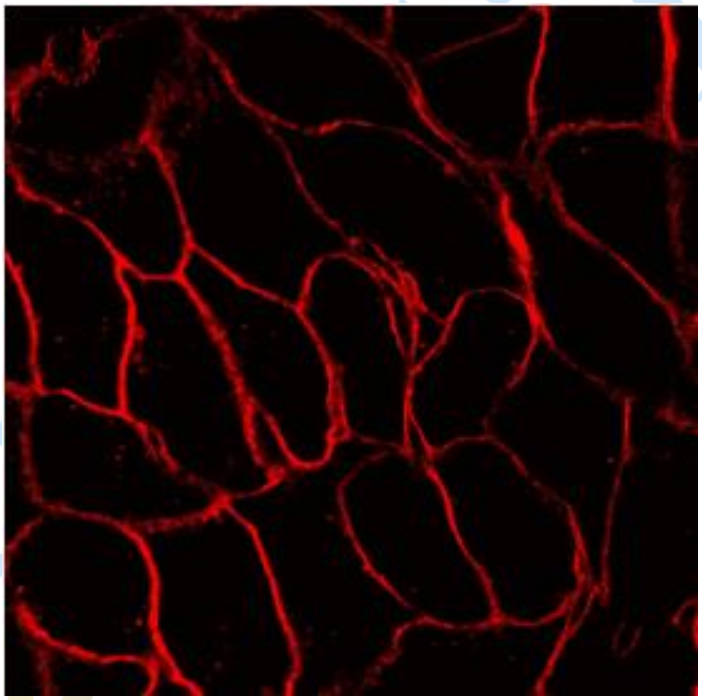

Figure 1. Laser confocal imaging effect diagram on HeLa cells

Different from common dyes, Membrane Red Probe (AIE) can be excited by an excitation wavelength of 488 nm, and has a large Stokes shift, which can be clearly distinguished from other dyes, reducing the possibility of monochromatic color in imaging. At the same time, Membrane Red Probe (AIE) has good biocompatibility and high imaging concentration, and can still ensure stable fluorescent signal output in the state of multiple scans, which is very suitable for multiple imaging.

Product Properties:

Product Properties	Details
Formula	$C_{35}H_{28}N_5S_2$
Molecular Weight	527.16g/mol
Purity	> 98% (HPLC)
Working Concentration	5-10μM
Full width at half maximum	550nm-690nm
Maximum Absorption/Emission Wavelength(nm)	λabs=493 nm/Em=610nm

Product Advantages:

1. Relatively low cytotoxicity, suitable for live cell and fixed cell imaging.
2. Strong anti-photobleaching ability; after 40 laser scans totaling 15 minutes, the emitted fluorescence intensity remains unchanged.
3. Low background noise, enabling rapid imaging.

Experimental Methods:

1. Preparation of stock dye solution: After brief centrifugation, aliquot the dye solution appropriately and store it in the dark at -20°C or lower. The concentration of the stock solution is 10mM.
2. Preparation of working dye solution:Take 1μL of Membrane Red Probe (AIE) stock solution and add it to 1-2 mL of cell culture medium or an appropriate buffer (such as PBS) to obtain an Membrane Red Probe (AIE) working solution with a dye concentration of 5-10μM.
3. Cell staining: Incubate adherent cells with an appropriate amount of the working solution for 30 minutes (preferably in a cell culture incubator), and wash with PBS three times; for fixed cells, after cell fixation, incubate the fixed cells with an appropriate amount of the working solution for 10 minutes, and wash with PBS three times; after staining, observe with a confocal fluorescence microscope or a fluorescence microscope, set the excitation wavelength to 488 nm, and collect signals at 600-700nm.

Matters needing attention:

1. Centrifuge briefly before use.
2. When using for the first time, prepare the mother solution, aliquot it, and store at -20°C to avoid repeated freezing and thawing.
3. For your safety and health, please wear a lab coat and disposable gloves.
4. This product is not suitable for fixed cells that have undergone permeabilization treatment.
5. This product is only for scientific research use.